

ABSTRACT

A turbine fluid guide member (10) including an airfoil portion (12), a platform portion (14) and fillet (16) joining the airfoil portion to the platform portion. Fillet cooling holes (18a - 18f) are positioned in the turbine fluid guide member relative to a pressure side vortex flow (22) so that a cooling fluid flow (20) exiting the hole is directed to form a cooling film (32) over the fillet. The cooling holes may be positioned in the airfoil portion, the platform portion, or any combination thereof, depending on the geometry of the airfoil and resultant vortex flows around the airfoil. A method of cooling a fillet of the turbine fluid guide member may include identifying a vortex flow around the fillet and selectively positioning a hole relative to the vortex flow such that a cooling fluid flow exiting the hole is directed to form a cooling film over the fillet.